G. R. S. IX-5]

Previous references.

File No. 214-13

1913.

Serial Nos. 1-22

(Gen - Ins.)

Later references.

GENERAL AND REVENUE SECRETARIAT.

Serial Nos.

Part B for March 1916.

SUBJECT.

Invention for "Impts: in pulverising apparatus" by Mr. Alexander Granger, Mechanical Engineer.

---

22. From Ch. Engr.

Ackg: The receipt of the Specification of ———

W D 88—GPB—50,000—21-7-16

GENERAL AND REVENUE SECRETARIAT.

(Gen : Mis)

NOTES.

Gen File No. 214 13/14

FILE HEADING.

Invention for "Improvements in pulverizing apparatus" by Mr. Alexander Granger, mechanical Engineer, Corner of 4th Street and Duncan's Road, Bulawayo, Rhodesia.

From

Mr. R. Gundu Rau, Advocate, Bangalore.

No. letter Dated 24. 11. 13 Received 24. 11. 13

Diary No. 3403	Enclos. 2 & Rs 11/- Spare Copies. –	Serial No. 1

BRIEF ABSTRACT OF LETTER.

Applies for leave to file a specification of the above named invention and also a pow forwards a power-of-attorney and remits Rs 11/- as application & Stamp fees.

NOTES AND ORDERS.

The inventor's application prescribed under Schedule 2 or 3 as the case may be, of the Inventions & Designs Regulation has not been received. Draft calling for the same, and other Drafts to the D.C. Treasury Deptt and the Superintendent of Stamps are subd.

GA 4/12/13 BR

2) Issue

5/12/13.

NOTES—First Sheet.

GPB—35,000—15-6-12

General and Revenue Secretariat.

Fin File No. 214 of 1913.

Serial No.	
2	To The D. C. & Dy Supdt No: 43330 Dt 11/12/13 Forwards Rs 10/- read with Sl: 1 and requests ackt.
3	To The Supdt Govt. Stamps No: G 4331 Dt 11/12/13 Forwards the power of attorney read with Sl: 1 (1 rupee one) for being impressed with Stamps of the value of one rupee.
4	To Mr. R. Ejumbu Rao, Bangalore. No: G 4332 Dt 11/12/13 Requests that an application in the prescribed form may be obtained from the inventor & forwarded to this office for further action.
5	From the Supdt of Stamps. No. 113 dated 15th Dec 1913. Returns duly stamped the power-of-attorney forwarded with Sl 3 & requests acknowledgment.
6	From the D.C. Fry Depts, Bangalore. No. 1042/176 dt 15-12-13 Acknowledges the receipt of the amount forwarded with Sl 2.

3) Draft acknowledging the receipt of the power-of-attorney is submitted for the approval

4) Seen

12/14

NOTE—Contn. sheet.

GPB—60,000—7-11-13

Secretariat. File No. 214 of 1913.

Serial No.	
7	To the Slaves Superintendent No G 5428 Dt 17.1.14 Acknowledges the receipt of the Slaves power-of-attorney forwarded with N:5
8	From Mr. Gundu Rao, Advocate. Dt 6.11-14. For with reply to 4, forwards an applicn from Mr. Granger prepared in the proper form. 5) Draft forwarding the applcn to the State Geologist is subd. 6) Issued. Mem 3/12
9	To the State Geologist: No: 5799 & 7.12.14 Forwards the specification for repair. 7) A draft reminder calling for the report is subd. 8) Issued. Mem 9.9
	Issued No. G.3505 & 13.9.15 ~~From the State Geologist~~ No.
10	From the Director, Dept of Mines & Geology No. 5978 15.9.15 In reply to the above states that the report called for will be submitted if complete papers are furnished. 9) Submitted with a draft forwarding the papers 10) Issued. Mem 1.12

NOTE—Contn. sheet.

GPB—60,000—7-11-13

General and Revenue Secretariat.

GM File No. 214 of 1913.

Serial No.	
11	To, The Director of Mines & Geol. No: G6963 D/4-12-15 With reference to sl 10 forwards the entire papers relating to Mr. Alexander Graysers applⁿ for leave to file a Specⁿ of his invention which was referred to in sl 1 & requests him to return the same with his report.
12	From the Director, Deptt of Mines & Geology No. 1214 of 8th December 1915 With reference to the above the Director is of opinion that the application may be granted.

11) Drafts Submitted.
13/12/15

12) The Director, Deptt of Mines and Geology recommends the grant of a patent

13) The drafts may be approved.

1st Member) MS Ramachendra Rao
15/12/15

Draft approved by the 1st Member
Irene 1/2
1/2/16
2/2-16

NOTE—Contn. sheet.

GPB—20,000—30-6-15

General and Revenue Secretariat. | G.M. File No. 214 of 191 3.

Serial No.	
~~14~~	~~To. R. Gun~~
13	To: Mr: Alexander Granger, Mechanical Engineer, Rhodesia. No: G11090 dt 5-2-16 Authorizes him to file a specification of the invention referred to in sl 1
14	To. Mr: R. Gundu Rao. B.A. B.L. No: G11991 dt 5-2-16 With reference to sl 8 forwards the G.O. referred to in sl 13 and requests ~~the~~ to Communicate the fact to the party Concerned.
15	From —do— Letter dt 29.2.16 Forwards Rs. 30/- and four copies of the Specification & requests the filing of the Specification. Usual drafts Subti. The Certificate at the foot of the G.O. requires signature. Issue 3.3.16 4/3-16
16	To. The Treasury Officer, Bangalore Sl-Ty. No. G12701 dt 8-3-16 Forwards Rs 30/- being the fee for filing the Specification referred to in sl 1.

Ur Rec'd

Ur Draft may be submitted

NOTE—Contn. sheet.

GPB—70,000—17-12-15

General and Revenue Secretariat. | G.M. File No. 214 of 1913.

Serial No.	
17	To. The Compiler No: G.12702 dt 8-3-16 Notifies the filing of the Specification of the invention referred to in Sl 1.
18.	To. R. Gundu Rao Esq. No: G. 12703 dt 8-3-16 Forwards a copy of the notification referred to in Sl 1 and requests to communicate the fact to the party
19	To. The Director of mines & Geol. " Chief Engineer " Supdt Govt Museum. No: G 12704-6 dt 8-3-16 Forwards for record in their offices Copy of the Specification of the invention referred to in Sl 1.
20	From the Director of Mines & Geology No. 2037 dt 13.3.16
21	From the Supdt Govt Museum No. 179 dt 14.3.16
22	From the Chief Engineer No. 2791 dt 25.3.16 Acknowledges receipt of the Specification forwarded with Sl 19 above.

The acknowledgment due from the Bangalore Dt Treasury to Sl 16 above will be awaited

Supdt Copies 11/5/16

12/5/16

No ackt has been received from the Bangalore Dt. Treasury.

To the Cash Section for kindly noting whether the amount of Rs. 30/- sent with Sl. 16 above has been acknowledged in this office Remittance Register.

16/8/16

NOTE—Contn. sheet.

GPB—70,000—17-12-15

G. R. S. 12]

General and Revenue Secretariat. | File No. of 191 .

Serial No.

No formal receipt was sent and the amount was acknowledged in the Treasury Remittance Register, Dy: No. 50 dated 11-3-1916.

17/8/16

Subtd

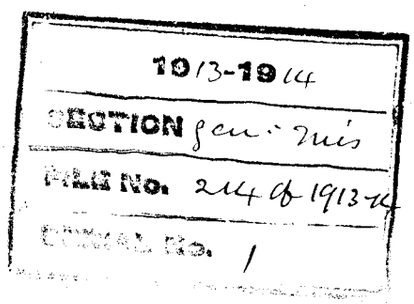
The papers may now be filed

23/8/16

NOTE—Contn. sheet.

GPB—70,000—17-12-15

DIARY No. 3403.



To,

The Chief Secretary to the Government of
Mysore Bangalore.

From,

R. Gundu Rao B A ; L L B.
Advocate
Bangalore.

Sir,

I beg to forward herewith an application of Mr. Alexander Granger mechanical engineer, corner of 4th street and Duncan road, Buluwayo, Rhodesia, for leave to file a specification under Part I of the Mysore Inventions and designs Regulation 1894 in respect of an invention for Improvements in pulverizing apparatus and solicit the favor of your submitting the same for the orders of the Government.

The power of attorney underwhich I am acting is sent herewith and the fee of Rs10-0-0 and rupee 1/- for stamping such power is also sent herewith.

I have the Honor to be
Sir
your most obedient servant

R. Gundu Rao
Advocate

Bangalore city)
)
D/ 24 th Nov 13)

To The Dewan of Mysore,

The application of Alexander Granger, Mechanical Engineer, residing at corner of 4th Street and Duncan Road, Bulawayo Rhodesia, for leave to file a specification under Part I of the Mysore Inventions and Designs Regulation, 1894.

1. The applicant is in possesion of an invention for Improvements in Pulverizing Apparatus, he is the inventor thereof, and to the best of his information and belief, the invention is new within the meaning of Part I of the Mysore Inventions and Designs Regulation, 1894, and no circumstance exists which, if the applicant is authorized to file a specification and files it in accordance with that Part, will disentitle him to an exclusive privilege there under in respect of the invention.

A patent for this invention has been granted in the United Kingdom under number 23805 of 1913, The application was filed Oct: 21st 1913. see page 1518 of British Patent Journal No 1293. Acceptance of application is notified on page 82 of Journal No 1305 and the sealing of the patent is notified on page 508 of Journal No 1316.

2. The following is a description of the invention:_

3. The applicant therefore applies for leave to file a specification of the invention pursuant to Part I of the Mysore Inventions and Designs Regulation, 1894.

Before me
at Bulawayo
E Bazett J.P.
17/8/14

A Grange

M.G.O. 13]

MYSORE GEOLOGICAL DEPARTMENT.

DATED BANGALORE, 15th December 1914.

No. 1202
Encl. one file of papers.

DIARY No. 4945

FROM

DR. W. F. SMEETH, M.A., D.SC., A.R.S.M., etc.,
State Geologist in Mysore.

To

D.M. Narasinga-Rao, Esquire, B.A.,B.L.,
Offg. Secretary to the Government of His Highness
the Maharaja of Mysore,Gen.& Rev. Depts.

SIR,

With reference to your docket No.G.5799/G.M.214-13-9 dated 5th December 1914, I have the honour to inform you that the enclosure thereto Viz., Mr. Granger's application for a patent for his invention in "Pulverizing apparatus" on which I am asked for a report is not complete. There is neither the de description of the invention nor specifications thereof and only the application in duplicate has been received by me. I return the papers herewith to be completed and retransmitted for report.

I have the honour to be,
Sir,
Your most obedient servant,

Registrar
for State Geologist in Mysore.

C.N.

G.R.S. 29A]

190 .

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To
The Deputy Commr.,
Treasury Dept., Bangalore

Dated

Despatched 11/12/13

Received

General No. C 3330

No. RD-73-12

ENCLOSURE No. Rcpt

Has the honor to forward herewith a sum of Rs 10/- (Ten only) received from Mr. R. Gundu Rao, Advocate, Bangalore City, being the application fee for ~~leave~~ leave to file a specification of an invention for "improvements in pulverizing apparatus" by Mr. Alexander Granger, Mechanical Engineer, Corner of 4th Street and Duncan Road, Bulawayo, Rhodesia, and to request the favor of an acknowledgment for the receipt of the amount.

By order,

11 5/12/13.

For Secretary.

GPB—10,000—9-4-06.

G.R.S. 29A]

190 .

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To
The Superintendent
of Stamps, Bangalore

Dated

Despatched

Received

General No. C.C. 337

No.

ENCLOSURE NO.

Has the honor to forward herewith Power-of-attorney executed by Mr. Alexander Granger constituting Mr. R. Gundu Rau, Advocate, Bangalore, as his agent in respect of his invention for "Improvements in pulverizing apparatus," and to request that the same may be impressed with the Mysore General Stamp of the value of Re one also herewith forwarded and the power returned to this Office.

By order

5/12/13

for Secretary

G. R. S. 26]

for File No. 214-1

Serial No. 4

14

Diary No. of letter replied to 3403

No. G 4332

General and Revenue Secretariat

( )

, *the* 191 .

To

R. Gundu Rao Esqre.,

Advocate, Bangalore City.

Date of issue 11/12/13

Signed by B. Ramachandra Iyer

Sir,

With reference to your letter of the 24th November 1913, ~~forwarding~~ applying on behalf of Mr. Alexander Granger of Bulawayo, Rhodesia, for leave to file a specification of his invention for "Improvements in pulverizing apparatus", I am directed to request that an applⁿ prescribed under Schedule II or III as the case may be, of the Mysore

over.

SUBJECT.

Ok 10/12

No. XI of 1894 may be obtained from the inventor and forwarded to this Office to enable it to take further action in the matter.

I have &c,

5/12/13.

For Secretary.

BSR

List of enclosures.

Copied by

Examined by

GPB—25,000—8-8-11.

DIARY No. 4002 A

1913-1914
SECTION Jan: Mail
FILE No. 214 of 1913 14
SERIAL No. 5

No 113
Enc 2.

Office of the Supdt of Stamps in Mysore.
Bangalore, Dated 15th Dec 1913.

From

N. Krishnasami Rao Esqre B.A.B.L.,
Superintendent of Stamps in Mysore.

To

K.R. Srinivasanjar Esqre M.A.,
Secretary to Govt, General & Rev: Depts

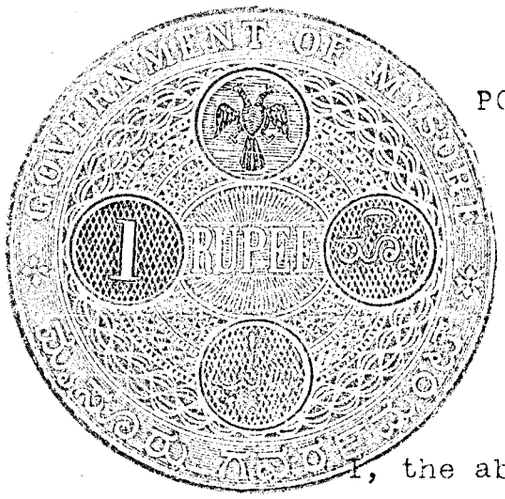
Sir,

I have the honor to return herewith duly stamped, the two powers of attorney, received with your Docket nos. Cs 4328 and Cs 4331 dated
Gen 213.13-3 Gen. 214-13-3
11th instant, and request the favor of an acknowledgment

I have &c,
sd) N. Krishnasami Rao
Supdt of Stamps

Copy

19



POWER OF ATTORNEY.

In the matter of the Inventions and Designs Regulation 1894, of the government of Mysore, and in the matter of, ALEXANDER GRANGER, Mechanical Engineer, corner of 4th Street and Duncan Road, Bulawayo, Rhodesia, an inventor.

I, the above named ALEXANDER GRANGER, do hereby retain constitute and appoint

R. Gundu Row Esqr B.A. B.L.
Advocate

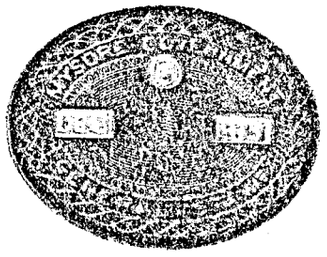
as my Agents and Attorneys to apply for and obtain from the Government of Mysore and keep in force an exclusive privilege or Letters Patent for Improvements in pulverizing apparatus, and I authorize them to sign my name to such papers and writings and do such acts regarding the same, including the appointment of a substitute or substitutes, as may be necessary or expedient.

Dated this 23rd day of September 1913.

Signed, sealed and delivered
at Johannesburg, Transvaal,.... Alexander Granger .....
in the presence of:-

Wesley E. John
National Mutual Bldgs.
Johannesburg
Patent Agent.

accepted
R. Gundu Rau
Advocate



18

Sm. File No. 214 of 1913-14

Sec 6.

DIARY NO. 4024

Rs 10-0-0

Book No. 1042
176

Bangalore District Treasury dated 3 December 13.

No. 92

SECTION

FILE No.

Received from The Secretary to Government, Genl & Rev. Deptt

Rupees Ten only

Annas _____ and Pies _____ being on account of

application fee for improvements in pulverizing apparatus

by Mr Alexander Granger, Mechanical Engineer, 4th Street, Duncan

Road, Bulawayo, Rhodesia, received with his docket no.

G. 4330/214-13-2 dated 11-12-13

In charge of Treasury.
Bangalore District.

G.R.S. 29A]

19 .

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To

The Superintendent of
Stamps in Mysore, Bangalore

Dated
Despatched } 17.1.14
Received

General No. G 5628
Rev No. 214-13-7

Enclosure No. —

Has the honour to acknowledge the receipt of the duly stamped Power-of-attorney forwarded with his letter No. 113 dated the 15th December 1913.

By Order

For Secretary

GPB—20,000—24-10-10.

G.M. 214-13

8C 8

Bangalore
6th Nov. 1914
3700(4)

To Dr. 6/11.
The Chief Secretary
to the Government of Mysore
General & Revenue Departments
Bangalore

Sir

In compliance with your letter
No. G. 4332 dated 11th Dec. 1913, I beg
G.M. 214-13-4
to file an application from Mr. Alexander
Granger, of Bulawayo, in proper form
and I pray that due orders may be
kindly passed thereon.

I beg to remain,
Sir,
Your most Obedient Servant
R. Gundu Rao
Advocate

19 .

From

Secy. to the Govt. of His Highness
The Maharaja of Mysore,
Genl. and Rev. Dept.

To

The State Geologist
in Mysore

Dated

Despatched 5-12-10

Received

General No. 3-2729

No. [illegible]-9

Enclosure No.

Has the honor to forward herewith for report under ~~Cl~~ Sec 6 clause (2) of the Mysore Inventions and Designs Regulation No. XI of 1894, an application for leave to file a specification of an invention for "Improvements in pulverizing apparatus" by Mr. Alexander Granger, Mechanical Engineer, Corner of 4th Street and Duncan's Road, Bulawayo, Rhodesia.

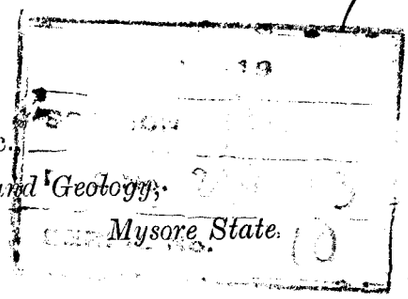
By order,
Asst
3/12
for Secretary

GPB—20,000—24-10-10.

D.M.G. 12]

No. 597. BANGALORE, 15th Sept 1915

2597



FROM

DR. W. F. SMEETH, M.A., D.SC., A.R.S.M., &c.,
Director, Department of Mines and Geology,
Mysore State.

To

D. M. Narasinga Rao, Esq., B.A., B.L.,
Secretary to the Government of His Highness
the Maharaja of Mysore, General Department.

SIR,

With reference to your letter No. G.3505, dated 13th September 1915, on the subject of the report called for from me in the matter of Mr. Alexander Granger's application for leave to file a specification of his invention for "Improvements in pulverising apparatus," I have the honour to invite your attention to this office letter to you No.1202, dated 15th December 1914, returning the enclosures to your docket No. G.5799/G.M.214-13-9, dated 5th December 1914, as the papers were incomplete and requesting their return with the description of the invention and its specifications. If complete papers are furnished to me the report called for will be submitted in due course.

I have the honour to be,

Sir,

Your most obedient servant,

Director,

Department of Mines & Geology.

N.S.

G. R. S. 26]

'13 Gen. File No. 214-13

Serial No. 11

*Diary No. of letter replied to*_____

No. G 6969 / All the Papers relating to Mr. Alexander Grange's application for leave to file a specification of his invention

General and Revenue Secretariat

( )

, *the* 191 .

To

The Director, Depts of Mines

Hyderabad

Date of issue 4-12-15

Signed by Mr. M. S. R. Rao

Sir,

With reference to your letter No. 597 of 15th September 1915, I am directed to forward herewith the entire papers relating to Mr. Alexander Grange's application for leave to file a specification of his invention for 'Improvements in pulverising apparatus' and to request

O. T. over.

SUBJECT.

that they may be kindly returned with your report

I have &c

Asst. Sec.

For Secretary of Govt

final dept.

List of enclosures.

Copied by

Examined by

GPB—25,000—8-8-11.

GPB—500—15-7 15

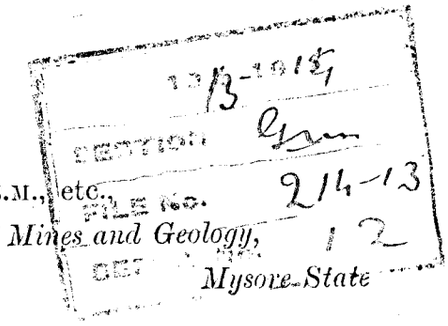
D.M.G. 12]

BANGALORE, 8th Dec 1915

No. 214

Encl 2

5078



FROM

DR. W. F. SMEETH, M.A., D.Sc., A.R.S.M., etc.,
Director, Department of Mines and Geology,
Mysore State

To

D.M. Narasinga Rao, Esquire, B.A.,B.L.,
Secretary to the Government of His Highness
the Maharaja of Mysore,
General Department.

SIR,

In reply to your letter No.G.6969/G.M.214-13-11, dated 4th December 1915, forwarding papers relating to Mr. Alexander Granger's application for leave to file a specification of his invention for 'Improvements in pulverising apparatus', I have the honour to state that the apparatus specified appears to me to be novel and is suitably described and illustrated and I recommend that the application be granted.

2. The papers relating to the application are herewith returned.

I have the honour to be,
Sir,
Your most obedient servant,

Director,
Department of Mines & Geology.

C.N.

To The Dewan of Mysore,

The application of Alexander Granger, Mechanical Engineer, residing at corner of 4th Street and Duncan Road, Bulawayo Rhodesia, for leave to file a specification under Part I of the Mysore Inventions and Designs Regulation, 1894.

1. The applicant is in possesion of an invention for Improvements in Pulverizing Apparatus, he is the inventor thereof, and to the best of his information and belief, the invention is new within the meaning of Part I of the Mysore Inventions and Designs Regulation, 1894, and no circumstance exists which, if the applicant is authorized to file a specification and files it in accordance with that Part, will disentille him to an exclusive privilege there under in respect of the invention.

A patent for this invention has been granted in the United Kingdom under number 23805 of 1913, The application was filed Oct: 21st 1913. see page 1518 of British Patent Journal No 1293. Acceptance of application is notified on page 82 of Journal No 1305 and the sealing of the patent is notified on page 508 of Journal No 1316.

2. The following is a description of the invention:_

3. The applicant therefore applies for leave to file a specification of the invention pursuant to Part I of the Mysore Inventions and Designs Regulation, 1894.

Before me
T. A. Rulanaw
17/8/14

E. Bach J.P.

A. Granger

28

The present invention has reference to apparatus for pulverizing ore, clinker and other hard material, the purpose being to provide apparatus in which both crushing and grinding may be effected efficiently and with economy of power, which is also compact and requires no expensive supports.

Apparatus according to this invention is shown in the accompanying drawings in which Fig. I is a vertical section on the line A-A Fig. II; and Fig. II is a front view partly in section.

1 is a mortar box having a substantial base to serve as a mortar and fitted with a removable cover 2. At the front of the mortar box is a discharge opening 3 which may be fitted with a screen 4 or not as required; at the back of the mortar box is the feed slot 5 through which is passed the material to be pulverized.

The mortar box carries a rotatable shaft 6 which operates one or more pulverizing elements 7, two being shown. The said pulverizing elements may vary in form but are conveniently circular and may therefore be referred to as discs.

Each disc is formed with a slot 8 through which a polygonal portion 9 of the shaft 6 passes with a sliding fit, so that the disc 7 rotates positively with the shaft but is free to slide thereon in the direction of its slot 8. Consequently as the disc is rotated it tends to drop at each half revolution when its slot 8 becomes substantially vertical. The two discs shown are positioned on the shaft with their slots 8 at right angles with one another so that one disc rotates a quarter revolution in advance of the other

and drops alternately therewith. When there are more than two discs they are suitable arranged to operate in sequence.

Secured to the shaft 6 at the outside of each disc 7 is a collar 10 of elongated form which covers in the adjacent slot 8, and between the discs is another collar 11 also secured to the shaft and covering the slots 8 of both the discs. Said collars 10, 11 are formed with recesses 12 which retain wearing strips 13 on the wearing faces of the shaft 6.

The discs are fitted with renewable tyres 14 which may be retained in place by means of wedges 15 on their inner surfaces. The central permanent portion 16 of each disc is provided with peripheral bayonet slots 17, 18 and as the tyre is passed laterally onto portion 16, said wedges are passed through the lateral arms 17 of the bayonet slots. Upon the tyre being then rotated backwardly upon the portion 16, the wedges 15 wedge up into the circumferentially wedge-shaped arms 18 of the bayonet slots. Thus the tyre is firmly but removably secured, and when worn may be dismounted and replaced in a different position upon the portion 16 to bring fresh wearing surfaces into operative position. The bayonet slots may be filled with fusible metal when the tyre is in place.

The wearing surfaces of the slots 8 are fitted with renewable liners 19, which may be held in grooves 20 extending from the periphery of the portions 16 of the discs, so that the tyres 14 retain said liners 19 in place.

For each disc there is provided a renewable die 21. The upper surface 22 of the die is shaped to form a concave

crushing surface extending substantially from the feed aperture 5 to the discharge aperture 4, and being preferably of greater radius than the disc 7. The dies 21 are sunk in curved recesses 23 and are retained therein by the fixed lug 24 and the movable wedging bar 25. The latter upon being drawn up by bolts 26 presses down the rear end of the die and so brings the die to a firm bearing on the mortar and against lug 24. The front and rear ends of the dies are made symmetrical as shown so that the dies may be turned end for end when worn.

The length of the drop of the discs is regulated by raising or lowering the shaft 6. For this purpose in the example illustrated each shaft bearing 27 is formed with a saddle extension 28 which is slid over the side of the mortar box and retains packing blocks 29 which sustain the bearing. The bearing is held down by bolts 30 taking into the mortar box, and the blocks 29 are formed with interlocking steps 31 which prevent their lateral movement whilst the bearing is held down. Upon unbolting and raising the bearing, one or more packing blocks 29 may be disengaged and slipped out of the open front 32 of the saddle, and another or others substituted if necessary.

In operation ore is fed into the feed slot 5, water being also added in the case of wet crushing. Upon the shaft being rotated a disc which is in the position of that shown in the front of Fig. I and at the right hand of Fig. II is rotated eccentrically with the shaft 6 and after making a half revolution - when its slot again

becomes substantially vertical - it drops upon and crushes the ore lying on the die. After each drop the continued rotation causes the disc to travel over the forward part of the face of the die 21, and so grind the ore lying thereon. Whilst being so ground the material is also swept up towards the discharge opening 3 and is thus expelled from the mortar box as rapidly as possible. Owing to their respective slots 8 being at right angles, the two discs drop and grind alternately with one another.

As the dies 21 and tyres 14 wear away, the height of the drop is maintained, if necessary, by progressively lowering the shaft 6. However, in practice such adjustment for wear is not usually necessary, since the increased drop, due to wear, compensates for the diminished dropping weight. Consequently the apparatus may be run for long periods without adjustment and with no loss of efficiency; the increased drop not being a source of danger as it is in a cam actuated stamp.

It will be understood that in order to cause the discs to drop, the centre of the shaft 6 is positioned at a higher point than the centre of the disc 7 when the latter is resting on the die, as in Fig I; the greater the distance between said points, the greater the drop, which is in fact twice said distance. Conversely by lowering the shaft 6 the length of the drop and the amount of crushing done are reduced, whilst the grinding effect remains substantially unchanged; and in the limiting case when the distance between the die and the centre of the shaft 6 is equal to the radius of the disc 7, crushing is eliminated and the operation is one of grinding only.

The tyres wear principally at the parts adjacent to the ends of the slot 8, and when so worn they may be taken off, turned a quarter revolution and replaced for further use. Similarly the dies wear principally at their front ends and may be turned end for end when worn.

By reason of its grinding action the apparatus is well adapted to amalgamate precious metal ores whilst reducing them.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:-

1. Pulverizing apparatus comprising a mortar, a rotatable shaft and one or more pulverizing bodies rotatable positively with the shaft and slidable radially thereon in one direction, the relative positioning of the shaft and the mortar being such as to cause the body or bodies during rotation to fall upon the mortar and thereafter grind over the same.

2. Apparatus as claimed in claim 1 in which the body is formed with a radial slot engaged by a polygonal portion of the shaft.

3. Apparatus as claimed in claim 1 or 2 in which the distance between the shaft and the mortar is adjustable.

4. Apparatus as claimed in the preceding claims in which the mortar is provided with a concave operative surface extending between a rear feed aperture and a front discharge aperture.

5. Apparatus as claimed in the preceding claims provided with renewable wearing parts substantially as described.

6. The pulverizing apparatus substantially as described with reference to the accompanying drawings.

3. The Applicant, therefore, applies for leave to file a specification of the Invention pursuant to Part I of the Inventions and Designs Act 1894.

Alexander Granger

I, the Applicant above named, do declare that the facts stated in this application are true to my knowledge, except as to matters stated on information and belief and as to those matters I believe them to be true.

Dated this 23rd day of September, 1913.

Alexander Granger

Fig I

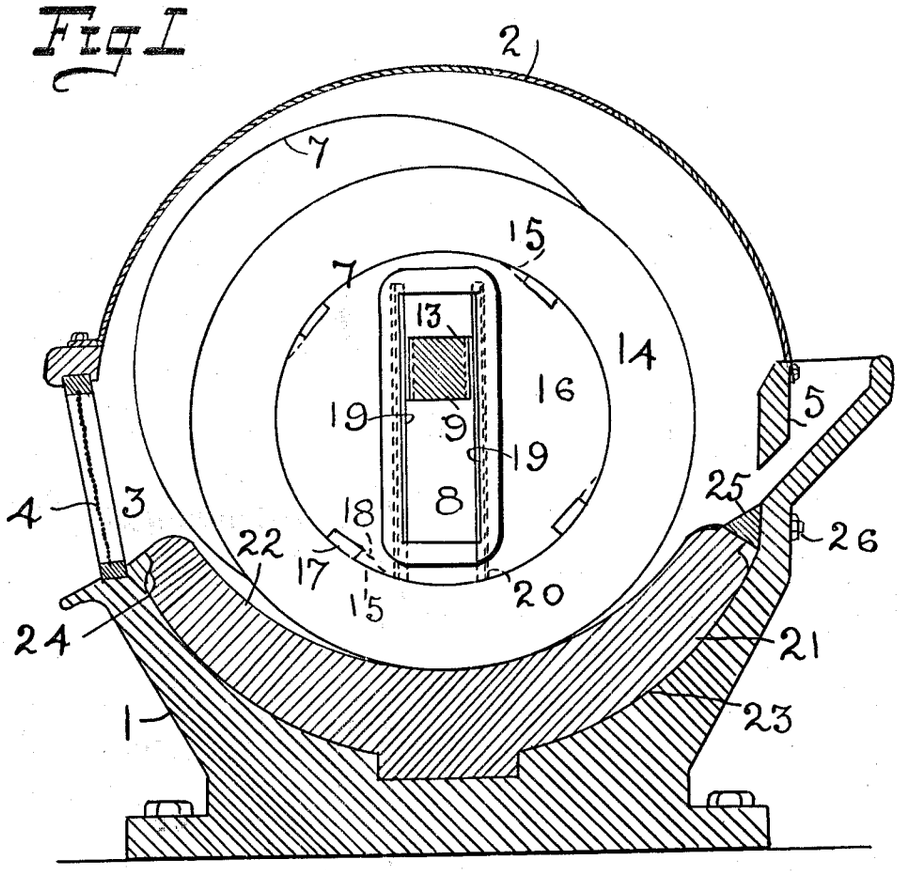

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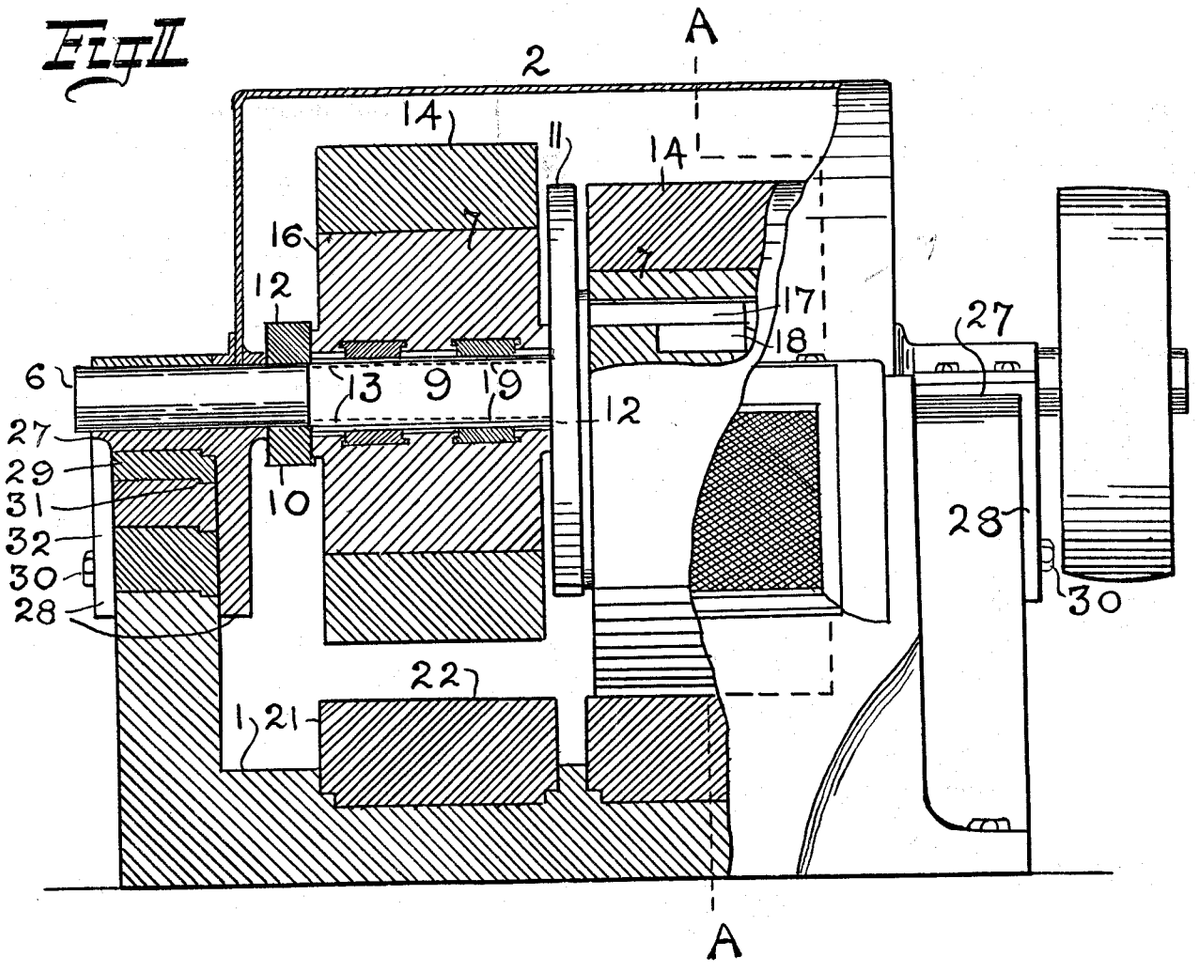
Fig II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G.M. 214-13-13

GOVERNMENT OF MYSORE

General Department.

Register No. 4 **of 1903-14**

Bangalore, the 5th February 1916.

WHEREAS an application, dated the 17th August 1914 and received on the 6th November 19..., has been submitted under Section 5 of the Mysore Inventions and Designs Regulation, 1894, by Mr. Alexander Granger, Mechanical Engineer, Corner of 4th Street & Duncan road, Buluwayo, Rhodesia (hereinafter referred to as "the applicant") for leave to file a specification of an invention for 'Improvements in pulverizing apparatus'.

And whereas the applicant has duly complied with all the requirements of Section 5 of the said Regulation;

The Government of Mysore are pleased, under Section 6 of the said Regulation, to authorize the applicant to file a specification of the said invention in accordance with the provisions of the said Regulation.

ORDERED, that the applicant be, and he is hereby, informed accordingly.

By Order of the Government of Mysore,

~~For~~ *Secretary to the Govt. of Mysore,*
Gen. ~~and Rev.~~ Dept.

Certified that the fees prescribed in the fourth schedule to the Mysore Inventions and Designs Regulation, 1894, in respect of the application for leave to file the said specification and of the filing thereof have been paid by the applicant, and that the specification hereinbefore described has been duly filed in accordance with the provisions of Section 8 of the said Regulation on this the twenty-ninth day of February 1916.

~~For~~ *Secretary to the Govt. of Mysore,*
Gen. ~~and Rev.~~ Dept.

(Section 8 of the Inventions and Designs Regulation, 1894.)

8. (1) If within six months from the date of an order under Section 6, Sub-Section (1), or within such further time, not exceeding three months, as the Government of Mysore, in its discretion, may, on cause shown to its satisfaction and on payment of the fee prescribed in that behalf in the fourth schedule, see fit to allow, the applicant causes a specification of his invention to be filed in manner by this Part required, and the fee prescribed in the fourth schedule in respect of the filing of the specification to be paid, the applicant shall, subject to the other provisions of this Part, be entitled to the exclusive privilege of making, selling and using the invention in the Territories of Mysore, and of authorizing others so to do, for a term of fourteen years from the date of the filing of the specification.

(2) But an exclusive privilege in respect of an invention of a new manufacture shall, notwithstanding anything in Sub-Section (1), cease, if the inventor fails to pay, within the time limited in that behalf by the fourth schedule, any fee prescribed in that schedule in respect of the continuance of the privilege.

(3) If, nevertheless, in any case, by accident, mistake, or inadvertence, an inventor fails to pay any such fee within the time so limited, he may apply to the Government of Mysore for an enlargement of the time for making the payment.

(4) Thereupon the Government of Mysore may enlarge the time accordingly, on payment of the fee prescribed in that behalf in the fourth schedule, and subject to the following conditions, namely :—

(*a*) the time for making a payment shall not in any case be enlarged for more than three months ; and

(*b*) if any suit is instituted in respect of an infringement of the exclusive privilege committed after a failure to make a payment within the time limited for the making thereof and before the enlargement of that time, the Court disposing of the suit may, if it thinks fit, refuse to award or give any damages in respect of the infringement.

GPB—500—7-4-09.

G. R. S. 26]

Serial No. 14

Diary No. of letter replied to

No. G/11091/one

General and Revenue Secretariat

( )

, *the* 191 .

To

R. Gundu Rao Esq BA BL B

Advocate, Bangalore City

Date of issue 5-2-16

Signed by Gun. B. S. Rao

Sir,

With reference to correspondence ending with your letter dy 6th November 1914, I am directed to forward herewith G.O. No. G.11090 fin 214-13-13 dy authorizing Mr. Alexander Granger to file a specification of his invention for 'Improvements in pulverizing apparatus' and to request that the fact may be communicated

O.T. over.

SUBJECT.

communicated to the party

concerned.

I have &c

Mos 15/12

For Secretary & Govt.,
General Depts.

31/1/16

List of enclosures.

Copied by

Examined by

GPB—25,000—8-8-11.

Rec'd Rs 30/- thirty only
29-2-16

38

Bangalore
29th Feby 1916

From R. Gundu Rao B.A., LL.B.,
Advocate
Bangalore

7735

1915-16
G.Dn.
214-13
15

To
The Secretary
to The Government of Mysore
General Department

Sir

I beg to submit here with the order of government G.11090 granting permission to Mr. Alexander to file The specification of his invention for 'Improvements in pulverizing apparatus', and Rs. 30/- (Rupees Thirty only) being the fee required to be paid under the 4th Schedule of the Mysore Inventions and Designs Regulations. I also beg to submit herewith the necessary copies. I pray that necessary orders may be passed.

G.Dn. 214-13-13

I beg to remain,
Sir,
Your most Obedient Servt
R. Gundu Rao
Advocate

G. R. S. 26]

Diary No. of letter replied to .....

General and Revenue Secretariat

( )

, the 191 .

Date of issue 8-3-16

Signed by Asst. Sec.

Money Sent & M. File No. 214-13
& was receipted Serial No. 16
(Rs. 50 R (3-16)
in the Remittance
Book in the
cash Section No. G. 12701 / Rs 30.
VR
3-16

To

The Treasury officer, Bangalore District Treasury.

Has the honor to forward herewith a sum of (Rs. 30/- (Thirty only) received from Mr R. Gundu Rao, Advocate, Bangalore, being the fee payable under cl 2 of Schedule IV of the Mysore Inventions & Designs Regn XI of 1894 for filing a specification of an invention for "Improvements in pulverizing apparatus" by Mr. Alexander Granger, Mechanical Engineer, Corner of 4th Street & Duncan Road, Bulawayo,

P.T.O. over.

SUBJECT.

Rhodesia, and to request the favour of an acknowledgment for the receipt of the amount.

By order

For Secretary to Govt
Genl. Deptt.

Rec'd to-day

List of enclosures

Copied by

Examined by

GPE—20,000—10-10-14

MYSORE GOVT, GEN. & REV. SECRETARIAT,

No. G 12702 / GM. 214-13-17 Dated Bangalore, 8 - 3 1916..

NOTIFICATION.

(PATENT.)

The following specification of an invention has been filed in accordance with Sections 8, 9, 10 and 11 of Regulation XI of 1894 (The Inventions and Designs Regulations) and is open to inspection at the Mysore Government Secretariat on application to the Secretary to the Government of His Highness the Maharaja of Mysore, General ~~and Revenue~~ Departments, and on payment of a fee of one Rupee.

By Mr. Alexander Granger, Mechanical Engineer, Corner of 4th Street and Duncan Road, Bulawayo, Rhodesia. ~~under South Africa~~

"Improvements in pulverizing apparatus".

By Order,

for Secretary to Govt
Home Genl. Dept.

To

The Compiler, *Mysore Gazette*, for publication.

No. G 12703/16 M. 214-13-15. MYSORE GOVT. GEN. & REV. SECRETARIAT,
Enc two
Dated Bangalore, 8. 3. 1916.

From

The Secretary to the Government of H. H. the Maharaja of Mysore,
General ~~and Revenue~~ Department.

To R. Gundu Rao Esq., B.A. L.L.B.
Advocate, Bangalore City

Sir,

With reference to your letter dated 29th February 1916, I am directed to forward copy of a Notification No. G 12702-GM. 214-13-17 dated 8-3-16. issued by this Government in regard to the invention filed by you under Regulation XI of 1894 (The Inventions and Designs Regulations.) and to request that the fact may be communicated to the party concerned.

The order granting permission to file specification is herewith returned, with the certificate at foot, duly filled in and signed.

I have the honor to be,
Sir,
Your most obedient servant,

For Secretary to Govt
Genl dept.

Recd. the

G. H. S. 26]

Serial No. 19

Diary No. of letter replied to .....

No. G 12704-6/mc

General and Revenue Secretariat

( )

, *the* 191 .

To

(1) The Director, Dept of Mines & Geology

(2) Chief Engineer of Mysore

(3) Supdt Govt Museum

Date of issue 8.3.11

Signed by Mr Parker Rhodes

Has the honor to forward herewith for record in his office Copy of a specification of an invention for "Improvements in pulverizing apparatus" by Mr. Alexander Granger of Bulawayo, Rhodesia, and to request the favour of an acknowledgment.

By order

[illegible]

for Secy to Govt.,
Genl Dept.

over.

Needs Num

SUBJECT.

D.M.G. 12]

GPB—2,000—23-3-15

No. 2037.

BANGALORE, 13th March 1916

FROM

DR. W. F. SMEETH, M.A., D.SC., A.R.S.M., &c.,
Director, Department of Mines and Geology,
Mysore State.

To

D.M. Narasinga Rao, Esquire, B.A.,B.L.,
Secretary to the Government of His Highness
the Maharaja of Mysore,
General Department.

SIR,

I have the honour to acknowledge the receipt of a copy of a specification of an invention for "Improvements in pulverizing apparatus" by Mr. Alexander Granger of Buluwayo, Rhodesia, forwarded with your docket No.C.12704-6/G.M.214-13-19 dated 8th March 1916, for record in this office.

I have the honour to be,
Sir,
Your most obedient servant,

Director,
Department of Mines & Geology.

No. 779

Mysore Government Museum.

Bangalore. Dated 14 March 1916.

DIARY NO. 8153

From

The Superintendent,
Government Museum.
Bangalore.

1913-16
SECTION G.M.
214-13
21

To

The Secretary to the Government of
His Highness the Maharaja of Mysore.
General Department.
Bangalore.

Sir,

I have the honor to acknowledge receipt of copy of a specification of an invention for " Improvements in pulverising Apparatus " by Mr. Alexander Granger of Buluwayo, Rhodesia, forwarded with docket No. G.12704-6/G.M.214-13-19, dated the 8th instant.

I have the honor to be,

S I R.

Your most obedient servant,

T. Kristnappa

Assistant Superintendent.

1916

From The Superintendent,
Govt. Museum
Bangalore

To The Secretary to the Govt. of
H.H. the Maharaja of Mysore
General Dept.
Bangalore

Dated

Despatched 14th March 1916.

Received

General No. 179
No.

Enclosure No.

Acknowledging receipt
of copy of a specification
of an invention for
"Improvements in
pulverizing apparatus"
by Mr. A. Granger of Bulawayo

Statewoks.

No. 2791

MYSORE P. W. DEPARTMENT.

CENTRAL OFFICE,

Bangalore.....25th March.....191 6.

From Rajasabhabhushana

KARPUR SHRINIVASRAO, ESQ., B.SC., L.C.E., M.R.A.S.,

Chief Engineer of Mysore,

Bangalore.

To

D.M.Narasinga Rao, Esq., B.A., B.L.,

Secretary to Government of Mysore,

General Department, Bangalore.

Sir,

I have the honour to acknowledge the receipt of a copy of specification of an invention for "Improvements in pulverizing apparatus" filed by Mr. Alexander Granger of Buluwaye, Rhodesia, forwarded with your letter No.G.12704-6/G.M.214-13-19 dated the 8th March 1916.

I have the honour to be,

Sir,

Your most obedient servant,

R V Sundaramma

Deputy Chief Engineer of Mysore.

J.R.

GPB—5,000—16-1-15

191 5-16.

MYSORE P. W. DEPARTMENT.

No. 2791.

From

THE CHIEF ENGINEER OF MYSORE,

Bangalore.

To

The Secretary to Government,
General Department.

Dated Bangalore, 25th March 1916.

Despatched 27-3-1916.

Enclosure No.

SUBJECT.

Acknowledging the receipt of a copy of Specification of an invention for "Improvements in pulverizing apparatus".